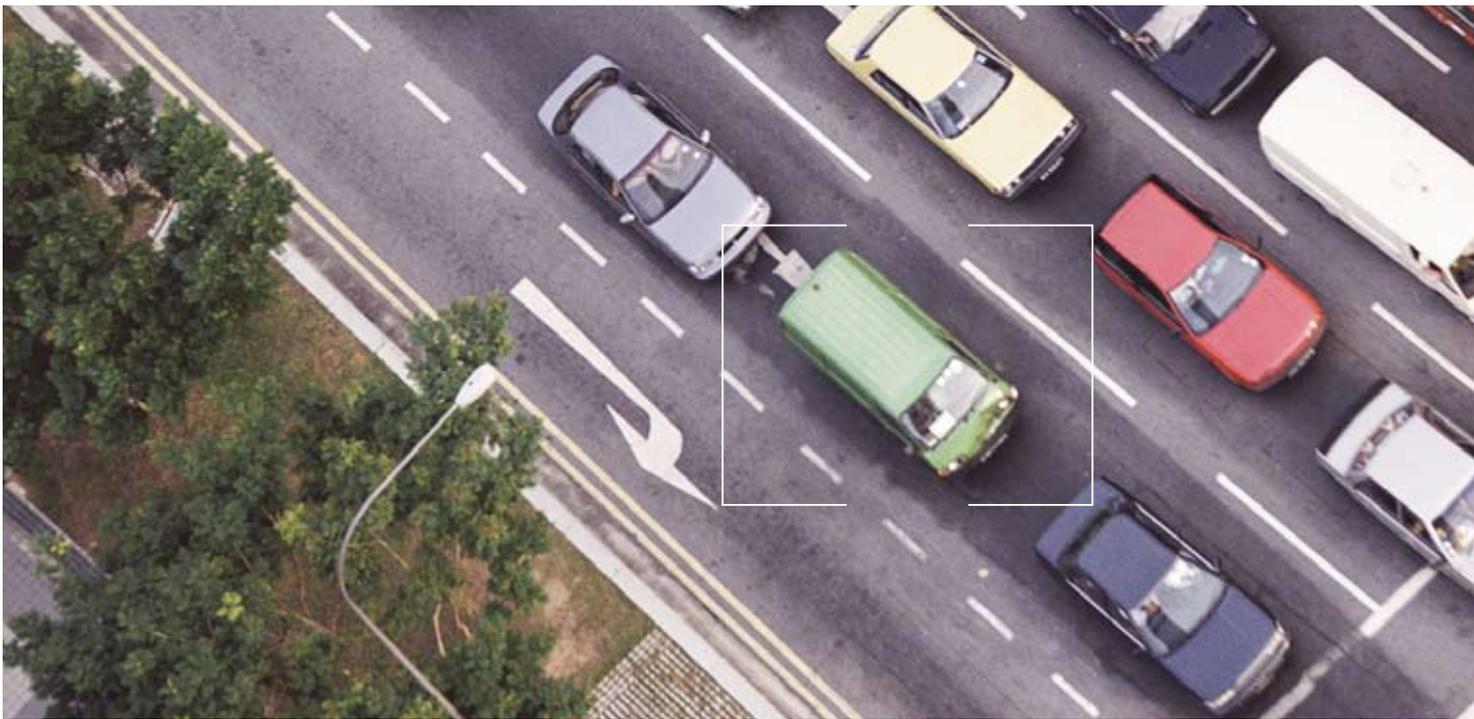




STRATXX
near space technology



Version 01 | 02.08

Bionic Unmanned Ground Scanners

The X-BUGS

- Detailed ground surveillance
- Video and thermal imaging
- Easy access to uneven areas
- Quick and flexible deployment

Bionic Unmanned Ground Scanners (X-BUGS)

X-BUGS are small, unmanned airships used for ground surveillance and communication missions. They are designed to support both an X-Station (High Altitude Platform) and the PhoeniXX (Low Altitude Platform).

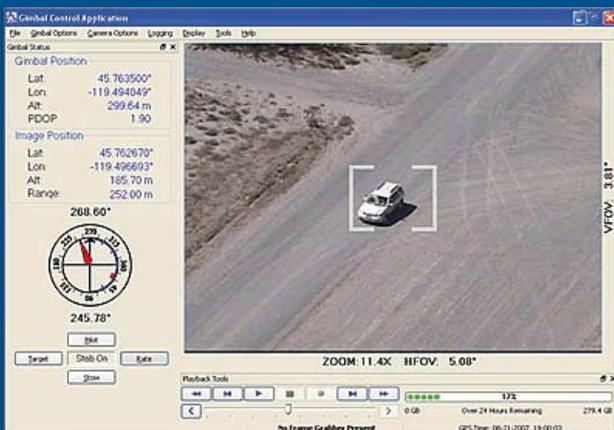
X-BUGS will operate at altitudes of up to 3,000 metres above sea level. Each device has a lifting body volume of 10m³ and a payload equipped with stabilised instruments such as an optical camera, infrared system and other sensors. Electromotors, batteries and photovoltaic panels comprise the power source.

The X-BUGS optical/infrared and thermal camera system generates a video signal. The signal is simultaneously recorded onboard and transmitted via a data link to a PhoeniXX or X-Station, and then to a ground station. This process does not require X-BUGS to have a direct line-of-sight to a ground station.

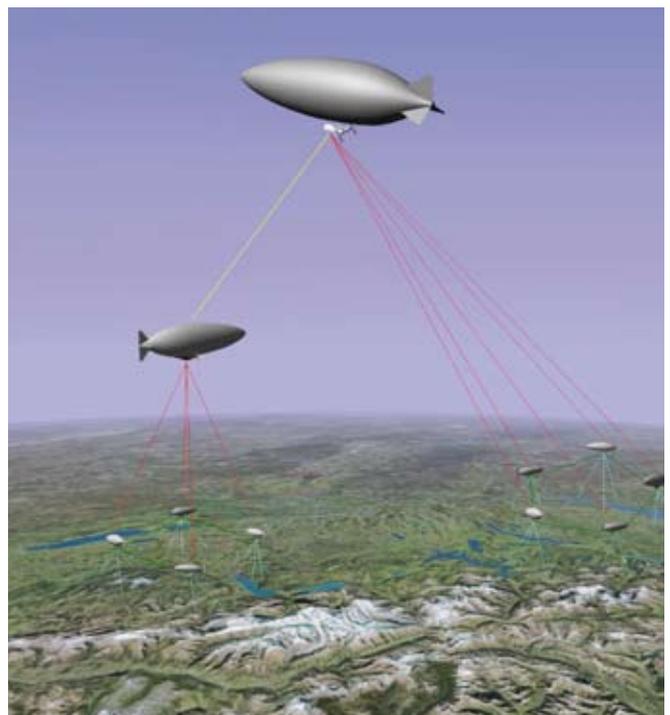
X-BUGS provide high-resolution monitoring of specific geographical areas, including uneven and inaccessible terrain outside the range of conventional air surveillance devices.

The Quantum Cascade Laser technology (QCL) used by X-BUGS offers a wide range of applications (e.g. drug and explosive detection, chemical and biological agent sensing).

The GPS and IMU (Inertial Measurement Unit) of X-BUGS ensures navigational accuracy. Pre-programmed mission data can also be entered into its computer memory prior to deployment.



X-BUGS provide high-resolution monitoring of specific geographical areas, including uneven and inaccessible terrain outside the range of conventional air surveillance devices.



Features & benefits

Compact size

The X-BUGS have a take-off weight of 8 kg. The total packing size of a complete X-BUGS system is only 1.0 x 0.8 x 0.5m.

Rapid deployment

Due to their compact size, X-BUGS can be deployed easily and quickly. X-BUGS require approximately one hour to reach their maximum recommended altitude of 2 – 3,000 m.

Easy operation

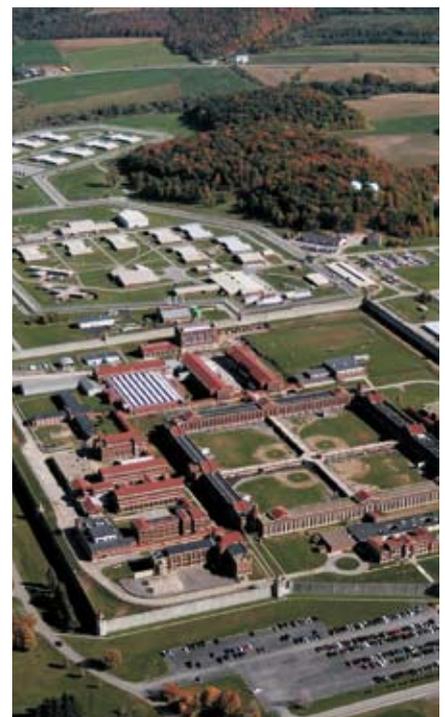
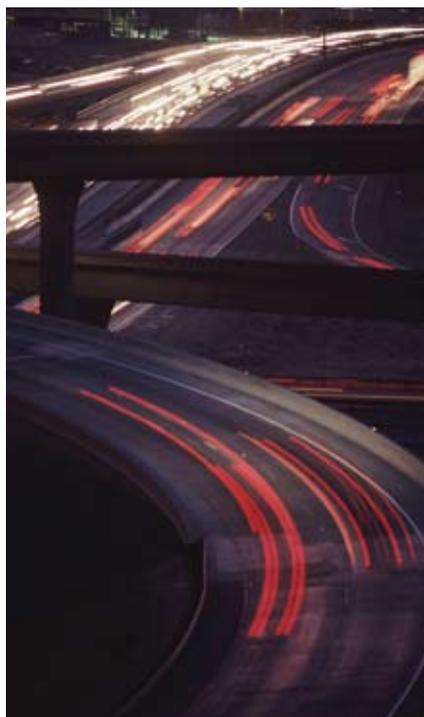
X-BUGS can be operated either by remote control or by pre-programmed mission data. They are designed to climb to an altitude of up to 3,000 m above sea level and have the ability to roam over an area of up to 50 km in diameter.

Environmentally friendly

X-BUGS use electromotors, batteries and photo-voltaic panels which offer a reliable and exhaust free source of power. Thus, X-BUGS can be easily deployed over urban areas with minimal impact on the environment and populations.

Clear line-of-sight

By allowing data to be transmitted to a ground centre via a Command Centre located either on a PhoeniXX or X-Station, the X-BUGS do not require a direct line-of-sight to the ground station itself. Consequently, X-BUGS are able to offer high-resolution, real-time imagery over any type of geography irrespective of natural obstacles (e.g. mountains, buildings etc) or irregularities in the terrain.



Technical specifications

X-BUGS	
Volume of lifting body	10 m ³
Length / Diameter	7 m / 1.5 m
Take-off weight	8 kg
Payload weight	3 kg
Payload power	300 W
Flight speed	50 – 80 km/h
Fight duration	2 – 12 hours
Packing size	
Payload bay	1 x 0.8 x 0.5 m
Deployment time	1 hour
Propulsion	Electromotor
Energy source	Batteries, solar panels
Flight altitude	0 – 3,000 metres
Flight control	Autonomous piloting and / or remote control
Communication	Wireless 2.4 GHz encrypted
Coverage area	Roaming 50 km diameter area

COMPARATIVE DATA X-BUGS versus small UAVs

	X-BUGS	Small UAVs
Manufacturing Cost	Low	High
Operating Cost	Low	High
Geostationary-Flight	Yes	No
Power source	Solar energy / batteries	Fuel
Deployment Time	1 hour	1 hour

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